AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A visualization processing system for generation of a stereoscopic image based on a vector field, comprising:

a computer;

a set of data structures employed as computer components of the computer, the set of data structures defining [[a]] the vector field, a three-dimensional coordinate space, and a two-dimensional plane; and

a set of computer programs employed as computer components of the computer, the set of computer programs comprising:

a first subset thereof for mapping the vector field in the three-dimensional coordinate space to obtain a corresponding sequence of coordinate points;

a second subset thereof for determining an elevation degree as an aboveground opening at a region of a plane connecting the sequence of coordinate points;

a third subset thereof for determining a depression degree as an underground opening at said region of the plane connecting the sequence of coordinate points;

a fourth subset thereof for synthesizing the elevation degree and the depression degree in a weighting manner to determine an elevation-depression degree at said region of the plane connecting the sequence of coordinate points;

a fifth subset thereof for mapping the three-dimensional coordinate space on the two-dimensional plane, providing a tone indication commensurate with the elevation-depression degree of said region to a region on the two-dimensional plane corresponding to said region of the plane connecting the sequence of coordinate points; and

a sixth subset thereof for determining an inclination distribution of the plane connecting the sequence of coordinate points, the fifth subset providing on the two-

dimensional plane said tone indication for a brightness of a color-toned indication of the inclination distribution.

2.   (Previously Presented) The visualization processing system as claimed in claim 1, wherein the elevation degree is defined in terms of a see-through solid angle at an obverse side within a range of the plane connecting the sequence of coordinate points.

3.   (Previously Presented) The visualization processing system as claimed in claim 2, wherein the depression degree is defined in terms of a see-through solid angle at a reverse side within said range of the plane connecting the sequence of coordinate points.

4.   (Cancelled)

5.   (Previously Presented) The visualization processing system as claimed in claim 4, wherein the sixth subset provides the color-toned indication of the inclination distribution in red colors.

6.   (Previously Presented) The visualization processing system as claimed in claim 1, wherein the set of computer programs further comprises:
        a seventh subset thereof for connecting, among the sequence of coordinate points, those coordinate points equivalent of an attribute in the vector field to obtain an attribute isopleth line; and
        an eighth subset thereof for mapping the attribute isopleth line on the two-dimensional plane given said tone indication.

7.   (Cancelled)

8.   (Currently Amended) A visualization processing method <u>for generation of a stereoscopic image based on a vector field,</u> comprising the steps of:

mapping [[a]] the vector field in a three-dimensional coordinate space to obtain a corresponding sequence of coordinate points;

determining an elevation degree as an aboveground opening at a region of a plane connecting the sequence of coordinate points;

determining a depression degree as an underground opening at said region of the plane connecting the sequence of coordinate points;

synthesizing the elevation degree and the depression degree in a weighting manner to determine an elevation-depression degree at said region of the plane connecting the sequence of coordinate points;

mapping the three-dimensional coordinate space on the two-dimensional plane, providing a tone indication commensurate with the elevation-depression degree of said region to a region on the two-dimensional plane corresponding to said region of the plane connecting the sequence of coordinate points; [[and]]

determining an inclination distribution of the plane connecting the sequence of coordinate points, providing on the two-dimensional plane said tone indication for a brightness of a color-toned indication of the inclination distribution; and

displaying on a display the two-dimensional plane with the tone indication.

9. (Currently Amended) A computer readable medium encoded with:

a set of data structures employable as computer components, the set of data structures defining a vector field, a three-dimensional coordinate space, and a two-dimensional plane; and

a set of programs employable as computer components for visualization processing for generation of a stereoscopic image based on the vector field, the set of programs comprising:

a first subset thereof for mapping the vector field in the three-dimensional coordinate space to obtain a corresponding sequence of coordinate points;

a second subset thereof for determining an elevation degree as an aboveground opening at a region of a plane connecting the sequence of coordinate points;

a third subset thereof for determining a depression degree as an underground opening at said region of the plane connecting the sequence of coordinate points;

a fourth subset thereof for synthesizing the elevation degree and the depression degree in a weighing manner to determine an elevation-depression degree at said region of the plane connecting the sequence of coordinate points;

a fifth subset thereof for mapping the three-dimensional coordinate space on the two-dimensional plane, providing a tone indication commensurate with the elevation-depression degree of said region to a region on the two-dimensional plane corresponding to said region of the plane connecting the sequence of coordinate points; and

a sixth subset thereof for determining an inclination distribution of the plane connecting the sequence of coordinate points, the fifth subset providing on the two-dimensional plane said tone indication for a brightness of a color-toned indication of the inclination distribution.

10. – 12. (Cancelled)

13. (Currently Amended)   A visualization processing system <u>for generation of a stereoscopic image based on a vector field,</u> compromising:

a computer;

a set of data structures employed as computer components of the computer, the set of data structures defining [[a]] <u>the</u> vector field, a three-dimensional coordinate space, and a two-dimensional plane; and

a set of computer programs employed as computer components of the computer, the set of computer programs comprising:

a first subset thereof for mapping the vector field in the three-dimensional coordinate space to obtain a corresponding sequence of coordinate points;

a second subset thereof for determining an elevation degree at a local region of a plane connecting the sequence of coordinate points in terms of a see-through solid angle

about said local region at an obverse side of the plane connecting the sequence of coordinate points;

a third subset thereof for determining a depression degree at said local region of the plane connecting the sequence of coordinate points in terms of a see-through solid angle about said local region at a reverse side of the plane connecting the sequence of coordinate points;

a fourth subset thereof for synthesizing the elevation degree and the depression degree in a weighting manner to determine an elevation-depression degree at said local region of the plane connecting the sequence of coordinate points; and

a fifth subset thereof for mapping the three-dimensional coordinate space on the two-dimensional plane, providing a tone indication commensurate with the elevation-depression degree of said local region to a region on the two-dimensional plane corresponding to said local region of the plane connecting the sequence of coordinate points.

14.   (Previously Presented) The visualization processing system as claimed in claim 13, wherein the set of computer programs further comprises:

a sixth subset thereof for determining an inclination distribution of the plane connecting the sequence of coordinate points; and

the fifth subset providing on the two-dimensional plane said tone indication for a brightness of a color-toned indication of the inclination distribution.

15. (Previously Presented) The visualization processing system as claimed in claim 14, wherein the sixth subset provides the color-toned indication of the inclination distribution in red colors.

16. (Previously Presented) The visualization processing system as claimed in claim 13, wherein the set of computer programs further comprises:

a seventh subset thereof for connecting, among the sequence of coordinate points, those coordinate points equivalent of an attribute in the vector field to obtain an attribute isopleth line; and

an eighth subset thereof for mapping the attribute isopleth line on the two-dimensional plane given said tone indication.